

Appl. No. 10/034,220
Amdt. dated May 23, 2006
Reply to Office action of February 24, 2006

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REMARKS

Applicants have received the Office action dated February 24, 2006, in which the Examiner: 1) rejected claims 1 and 5 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims (4, 10) and 1 of Lacombe (U.S. Pat. No. 5,887,169, hereinafter "Lacombe"); 2) rejected claim 1 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 7 of Autor et al. (U.S. Pat. No. 5,964,875, hereinafter "Autor"); 3) rejected claims 2-4 and 6-8 because they depend upon rejected base claims 1 and 5; and 4) allowed claims 9-26 and 31-34.

Reconsideration is respectfully requested.

I. ALLOWED CLAIMS

Applicants appreciate the allowance of claims 9-26 and 31-34.

II. ALLEGED DOUBLE PATENTING OVER LACOMBE

The Office action of February 24, 2006 rejects claims 1 and 5 for alleged obviousness-type double patenting in view of Lacombe. Applicants respectfully traverse.

Lacombe is directed to a method and apparatus for providing dynamic entry points into a software layer. (Lacombe Title). In particular, Lacombe discloses a system where a hardware abstraction layer (HAL) supports entry point code addresses to ensure backward compatibility.¹

The HAL 408 includes HAL entry points (**static entry points**) HEP₁ - HEP_m 410, which are the first **executable code addresses** of function calls within the HAL 308.

(Lacombe Col. 5, lines 45-48 (emphasis added)).

¹ Applicants acknowledge that the determination with respect to obviousness-type double patenting is whether the Applicants' invention is an obvious variation of the invention defined by the claims of the Lacombe patent. (MPEP 8th Ed., Rev. 2, § 804, p. 800-21). However, the specification gives meaning to the terms in the patent claims, and are thus relevant to the determination to be made by the Examiner. (*Id.* at p. 800-22).

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[W]hen the HAL in place is not the enhanced HAL, only the default or standard functionality can be utilized by the device driver (via the static entry points).

(Lacombe Col. 7, lines 8-10).

In addition, Lacombe discloses a HAL which provides further functionality "without having to worry about crashing the operating system when the particular HAL in use with the computer system lacks additional functionality." (Lacombe Col. 4, lines 50-54). Lacombe discloses a HAL which, in addition to the entry point code addresses to ensure backward compatibility, also implements further entry point code addresses for the enhanced functionality. (Lacombe Col. 5, lines 48-51). When a particular HAL has enhanced functionality, the entry point code addresses for the enhanced functionality are read from the HAL, and placed in a data structure.

[A] function call to the at least one dynamic entry point address is made 610 to obtain additional dynamic entry point addresses. In this embodiment, the first dynamic entry point (DEP₁ 412) contains links or pointers to all of the other dynamic entry points (e.g., DEP₂-DEP_i). Hence, the device driver initialization processing 600 preferably makes 610 the function call to the address of the first dynamic entry point DEP 1 412 and thereby obtains the additional dynamic entry point addresses. The returned additional dynamic entry point addresses are then saved 612. Here, the returned additional dynamic entry point addresses are preferably stored in memory associated with the device drivers so that they can be later utilized as needed.

(Lacombe Col. 6, lines 50-62 (emphasis added)). Before a device driver makes a call to the HAL, the device driver checks the data structure to see if the entry point code address of the desired functionality is supported by the HAL.

[A] decision 804 determines whether a HAL dynamic entry point that the requester desires to call is valid for the HAL in place. This, for example, can be performed by checking whether the dynamic entry point address to be called is zero. If the dynamic entry point address is not equal to zero, then the particular dynamic entry point is supported and in which case the hardware access processing 800 continues. Alternatively, when the decision block 804 determines that the particular dynamic entry point is not valid (i.e., determines that the dynamic entry point address is equal to zero), then the

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hardware access request processing 800 ends because the HAL does not support the particular dynamic entry point.

(Lacombe Col. 8, lines 14-25). Thus, clearly the device driver knows the entry point code address of the functionality it desires to use, and the discussion above is directed to determining if the entry point code address is supported on the particular HAL.

Claim 1, by contrast, specifically recites, "identifying with a unique identification number a first basic input/output system (BIOS) routine of a plurality of BIOS routines; correlating the unique identification number to at least a services number in a data table; and determining, by a BIOS calling program, a services number of the first BIOS routine based on the unique identification number from the data table." Applicants respectfully submit that claim 1 does not suffer from obviousness-type double patenting over Lacombe. In particular, the Office action relies on Lacombe's claim 4 terminology, "obtaining dynamic entry point addresses associated with the particular enhanced software layer..." with respect to the Applicants limitation "determining, by a BIOS calling program, a services number of the first BIOS routine based on the unique identification number from the data table." In light of Lacombe's specification, the claimed obtaining by Lacombe appears to be reading the entry point code addresses from the HAL and putting them in a table. A Lacombe device driver uses the table entry to determine if an entry point code address **the device driver already knows** is supported by the HAL. Such a system does not teach or fairly suggest "determining, by a BIOS calling program, a services number of the first BIOS routine based on the unique identification number from the data table." For this reason alone the rejection regarding Lacombe is improper.

Furthermore, Applicants respectfully traverse that obtaining entry point code addresses is equivalent to or teaches determining a services number. The entry point code addresses claimed by Lacombe appear to be actual system memory addresses, not services number associated with particular interrupts. For this additional reason, the rejection regarding Lacombe is improper.

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Likewise with respect to Lacombe's claim 10, the Office action relies on Lacombe's claimed "determining whether the HAL supports at least the one of the functional routines based on said comparing." A determination of whether Lacombe's HAL supports a particular routine (by determining whether the entry point code address is present in a table) does not teach or suggest "determining...a services number of the first BIOS routine based on the unique identification number from the data table." For this further reason, the rejection regarding Lacombe is improper.

Similarly Applicants' claim 5: specifically recites, "a data table stored within the BIOS ROM, and wherein the data table **correlates a unique identification number for a single BIOS routine to a BIOS call services number for the single BIOS routine.**" Lacombe's HAL identifier of claim 1 does not appear to identify a single BIOS routine; but rather, the HAL identifier indicates whether the HAL has the entry point code addresses for the enhanced functionality. Thus, the HAL identifier of claim 1 fails to teach or fairly suggest correlating "a unique identification number for a single BIOS routine to a BIOS call services number for the single BIOS routine." As for the various entry point code addresses, these appear to already be known by the calling routine, and any determination relative to the entry point code addresses is merely a determination of whether they are present. The entry point code addresses are not used to identify a "BIOS call services number for the single BIOS routine."

Based on the foregoing, Applicants respectfully submit that the claims 1 and 5 do not suffer from obviousness-type double patenting over Lacombe.

III. ALLEGED DOUBLE PATENTING OVER AUTOR

The Office action of February 24, 2006 rejects claim 1 for alleged obviousness-type double patenting in view of Autor. Applicants respectfully traverse.

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Autor is directed to a method and apparatus for identification of features associated with computers. (Autor Title). In particular, Autor is directed to a system of monitoring hardware devices in a computer system.

The computer monitoring system 300 operates to monitor hardware 302 of a computer system. **The hardware 302 of the computer system is generally understood by those in the computer field, and typically includes integrated circuits, wiring, circuit boards, data storage devices, and various other components.** The hardware 302 of the computer system also includes a plurality of hardware features. **It is the hardware features of the hardware 302 of the computer system that are monitored. Examples of the hardware features include fans, DC-DC converters, power supplies, thermal trip sensor, bus monitors, and the like.**

(Autor Col. 6, lines 12-22 (emphasis added)). Autor makes no mention of BIOS, BIOS routines or services numbers for BIOS routines.

Claim 1, by contrast, specifically recites, "identifying with a unique identification number a first basic input/output system (BIOS) routine of a plurality of BIOS routines; correlating the unique identification number to at least a services number in a data table; and determining, by a BIOS calling program, a services number of the first BIOS routine based on the unique identification number from the data table." Applicants respectfully submit that claim 1 does not suffer from obviousness-type double patenting over Autor. The Office action relies on Autor's claim 7 terminology "retrieving locations of at least one of presence information and status information for the particular hardware feature" with regard to the claimed "identifying with a unique identification number a first basic input/output system (BIOS) routine of a plurality of BIOS routines..." The claim terminology and the teachings of Autor are too far removed for at least two reasons. First, Autor's claim 7 does not recite a unique identification, and the Office action relies on inherency for this teaching. Second, Autor does not mention BIOS routines, and BIOS routines do not fit into Autor's category of hardware devices (integrated circuits, wiring, circuit boards, data storage devices) or Autor's category of hardware features (DC-DC converters, power supplies, thermal trip sensor, bus monitors). Thus, to arrive at the alleged obviousness-

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type double patenting the Office action relies on an alleged inherent property, and then unjustifiably builds on the alleged inherent property with a non-textual extension to BIOS routines. The Office action is not only improperly relying on hindsight reconstruction, but in additions is reaching erroneous conclusions based on speculation, and thus Applicants respectfully submit that for this reason alone the alleged obviousness-type double patenting rejection should be withdrawn.

Moreover, Applicants respectfully traverse the assertion that determining an access mechanism for presence and status information of hardware devices (such as integrated circuits, wiring, circuit boards, data storage devices) and hardware features (such as DC-DC converters, power supplies, thermal trip sensor, bus monitors) is equivalent to a services number for BIOS routines. Applicants respectfully submit that one of ordinary skill would not associate the "hardware devices" and "hardware features" of Autor with BIOS software or BIOS services numbers. For this additional reason the alleged obviousness-type double patenting rejection should be withdrawn.

Based on the foregoing, Applicants respectfully submit that the claim 1 does not suffer from obviousness-type double patenting over Autor.

IV. CONCLUSION

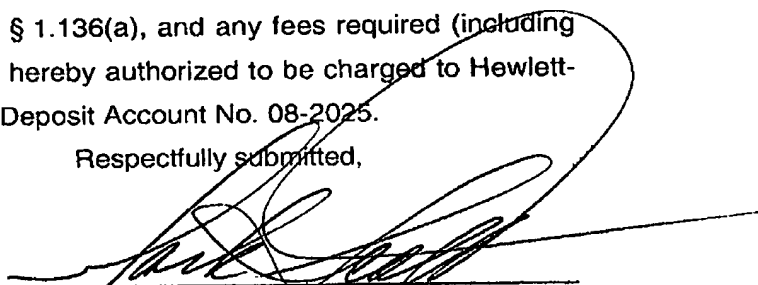
In the course of the foregoing discussions, Applicants may have at times referred to claim limitations in shorthand fashion, or may have focused on a particular claim element. This discussion should not be interpreted to mean that the other limitations can be ignored or dismissed. The claims must be viewed as a whole, and each limitation of the claims must be considered when determining the patentability of the claims. Moreover, it should be understood that there may be other distinctions between the claims and the cited art which have yet to be raised, but which may be raised in the future.

Applicants respectfully request reconsideration and that a timely Notice of Allowance be issued in this case. It is believed that no extensions of time or fees are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of

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time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 C.F.R. § 1.136(a), and any fees required (including fees for net addition of claims) are hereby authorized to be charged to Hewlett-Packard Development Company's Deposit Account No. 08-2025.

Respectfully submitted,



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